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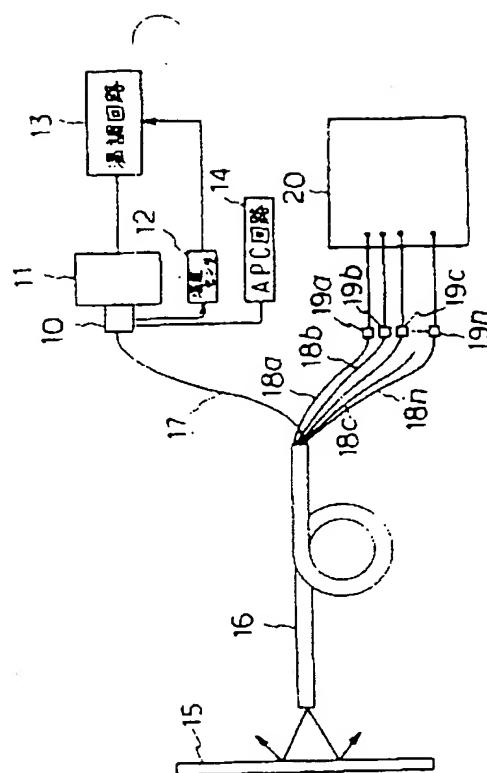
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APPLICANT : OMRON TATEISI ELECTRONICS CO;

INVENTOR : YAMASHITA MAKI;

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TITLE : LASER SPECKLE SPEEDOMETER



**ABSTRACT :** PURPOSE: To make it possible to measure a moving direction and a moving speed even if the moving direction is not constant and to enable measurement under various conditions within a wide measuring range, by utilizing the mutual relation of a speckle pattern obtained by irradiating an object with laser beam and the moving speed of the object.

**CONSTITUTION:** Coherent beam from a laser diode 10 is allowed to irradiate the surface of an object 15 to be measured during movement through an optical fiber 17. The diffused reflected beam generated from the surface of the object 15 to be measured forms a speckle pattern and a part thereof is incident to photodiodes 18a, 18b...18n to be sent to photodiodes 19a, 19b...19n. The beam intensity distribution of the speckle pattern is converted to electric signals by the photodiodes 19a, 19b...19n to be inputted to a signal processing part 20. This signal processing part 20 calculates a speed V on the basis of the mutual relation of the above mentioned beam intensity distribution and the speed V of the moving object 15.

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